

**SYSTEM FOR AUTOMATED MONITORING AND MAINTENANCE OF  
CROPS INCLUDING COMPUTER CONTROL OF IRRIGATION AND  
CHEMICAL DELIVERY USING MULTIPLE CHANNEL CONDUIT**

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**ABSTRACT OF THE DISCLOSURE**

A system for automating the growing of crops, such as grapevines. Combinations of data from sensors local to a vineyard, and from optional remote stations and sensors, is  
10 combined with a control system to accurately control the dispensing of water and chemicals such as insecticides, disease prevention fungicides and fertilizers. The materials are dispensed through a multiple channel conduit which allows conflicting, or incompatible, types of materials to be transported through a common assembly. Sensors are attached to the conduit so that the placement of sensors can occur simultaneously with the laying of the conduit. This approach  
15 also ensures correct placement and spacing of the sensors with respect to each plant, or plant area, to be monitored and treated.

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